REMARKS

Priority

Applicant claimed priority in the filing papers, as acknowledged on the Filing receipt. Applicant now amends the first page of the application to recite said priority claim.

Amendment of the Specification

The Specification is amended at page one to recite the chain of priority. Page one is also amended to delete the references to Federally Funded Research and Microfiche, none of which are applicable to this application.

Amendment of the Claims

Claim 1 has been amended for clarity by reciting that a complementary sequence must be fully complimentary. Additionally, Claim 1 has been amended to limit the scope of the claim to sequences encoding the entirety of SEQ ID NO:2.

Claim 4 has been amended for clarity by reciting that the sequence encoding SEQ ID NO:2 comprises SEQ ID NO1.

Claims 5 and 6 were rejected as reciting unpatentable subject matter. The claims have been amended as suggested by the Examiner.

Rejections Under Section 102e

In View of Hoskins

Claims 1-3, 5 and 6 were rejected under section 102e as anticipated by Hoskins et al. Claim 1 has been amended to remove the recitation of a polynucleotide having at least 25 nucleotides. In view of the amendment, Applicant requests that this rejection be withdrawn as moot.

In View Of Rubenfield

The Examiner rejected claims 1-7 as anticipated by Rubenfield under section 102e. Applicant respectfully traverses.

Initially, Applicant notes that Claim 1 has been amended to remover the recitation of polynucleotides of at least 25. In view of that amendment Applicant requests withdrawal of those parts of the rejection based on that recitation.

Rubenfield cites two priority dates, 02/18/98 and 07/27/98. Applicant's effective priority date is 05/29/98. The Examiner has not pointed out to Applicant whether sequence 7702 of Rubenfield was present in his application as filed 02/18/98 or did not appear until his application filed 07/27/98. Therefore, Applicant can not determine whether the Examiner is properly contending that sequence 7702 anticipates aspects of the presently claimed subject under section 102e. Because the Examiner has not stated which of Rubenfield's priority dates is applicable to sequence 7702, Applicant contends that the Examiner has not stated a proper *prima facie* case of anticipation. Therefore, Applicant is not at this time obligated to address that rejection.

Applicant acknowledges the Examiner's statement that sequence 7702 of Rubenfield has different nucleotides when compared to Applicant's SEQ ID NO:1. Applicant agrees. Sequence 7702 is not only about 80 nucleotides shorter than Applicant's SEQ ID NO:1, there are internal differences as well. Because SEQ ID NO:1 and 7702 of Rubenfield are different sequences, Applicant requests the withdrawal of the rejection of the presently claimed subject matter limited to SEQ ID NO:1.

CONDITIONAL PETITION

Applicant hereby makes a Conditional Petition for any relief available to correct any defect in connection with this filing, or any defect remaining in this application after this filing. The Commissioner is authorized to charge deposit account 13-2755 for the petition fee and any other fee(s) required to effect this Conditional Petition.

Respectfully submitted,

By _____
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Date: December 15, 2003

TITLE OF THE INVENTION

MURD PROTEIN AND GENE OF *PSEUDOMONAS AERUGINOSA*

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application 60/087,308, filed May 29, 1999, now abandoned, and is a 371 of PCT Application US99/11585, filed May 26, 1999.

~~Not applicable.~~

~~STATEMENT REGARDING FEDERALLY-SPONSORED R&D~~

~~Not applicable.~~

~~REFERENCE TO MICROFICHE APPENDIX~~

~~Not applicable.~~

FIELD OF THE INVENTION

This invention relates to the genes and enzymes involved in cell wall synthesis in bacteria, and particularly to the inhibition of such enzymes.

BACKGROUND OF THE INVENTION

The molecular target of many naturally-occurring antibiotics, including fosfomycin, cycloserine and β-lactams, is the synthesis of the bacterial cell wall. The frequency with which these types of antibiotics arose in evolution indicates that the pathway of cell wall biosynthesis is a particularly effective point of attack against bacteria. Genetic studies confirm the soundness of this process as a target, as temperature-sensitive alleles of the intracellular pathway genes are lytic, and therefore lethal. Since the building blocks of the cell wall are highly conserved structures in both Gram-positive and Gram-negative bacteria, but are unique to the eubacteria, novel inhibitors of cell wall formation are expected to be both broad spectrum and safe antibiotics.

The bacterial cell wall is a polymer -- a single molecule composed of peptidoglycan -- that defines the boundary and shape of the cell. Assembled by crosslinking glycan chains with short peptide bridges (Rogers, H. J., H. R. Perkins, and J. B. Ward, 1980, Biosynthesis of peptidoglycan. p. 239-297. In Microbial cell walls and membranes. Chapman & Hall Ltd. London), the completed structure is strong enough to maintain cell integrity against an osmotic pressure differential of over four atmospheres, but also flexible enough to allow the cell to move, grow and divide.